SUB B'

2. (Amended) Apparatus as in Claim 1 further including means [for measuring oxygen flow and wherein the sensor produces a] coupled to said space for introducing a flow of oxygen into said space for supplying oxygen to the patient, an ambient sensor in communication with said space but spaced away from said change sensing sensor to minimize acoustical and mechanical coupling, said ambient sensor being exposed to the flow of oxygen into said space, producing an electrical output signal which is proportional to [oxygen] the flow of oxygen which is combined with the electrical output signal from the change sensing sensor to minimize the effect of the oxygen flow in sensing the respiratory air flow into the patient.

Claim 3, line 1, after "said" insert --change sensing--.

Claim 4, line 1, after "said" insert --change sensing".

SUB B2

5. (Amended) Apparatus as in Claim 1 further comprising an additional sensor in the form of a microphone adapted to be positioned in the vicinity of the nose and/or mouth of the patient and out of communication with the acoustic [duct] space for measuring ambient sounds including respiratory sounds in the vicinity of the nose and/or mouth and providing an electrical output signal, means for combining the output signals from the first named and additional sensors for reducing ambient noise signals from the signal of the first-named sensor and means utilizing the combined electrical output signals for recognizing disordered breathing patterns.

Claim 6, line 1, delete "3" and replace with --5--.

A3

9. (Amended) Apparatus as in Claim 1 wherein said acoustical device is comprised of a body having an elongate portion having a length and width so as adapted to fit underneath the nose of the patient and on the upper lip of the patient, wherein said acoustical [duct] space is disposed in the body and wherein said sensor is in communication with said acoustical [duct] space, said body having a plurality of ports therein exposed to respiratory flow and in communication with the acoustical [duct] space.

Claim 10, line 2, after "ports" insert --are adapted to--.

A4

11. (Amended) Apparatus as in Claim 9 wherein said body of said device includes a portion [extending] adapted to extend over the mouth of the patient and having an acoustical duct therein in communication with the acoustical duct in the elongate portion, said body also having a port therein in communication with the acoustical duct in the portion [overlying] adapted to overlie the mouth of

A4 the patient and [facing] and adapted to face towards the mouth of the patient to monitor air flow into and from the mouth of the patient.

Claim 12, line 2, delete "overlying" and replace with --adapted to overlie--.

13. (Amended) Apparatus as in Claim 1 [wherein said] further including means [for securing] adapted to secure the device to the patient [includes] and including loops [extending] adapted to extend around the ears of the patient and secured to the body.

14. (Amended) Apparatus as in Claim 11 wherein said body includes at least one port [underlying] adapted to underlie each of the nostrils of the nose and at least one port adapted to be opening in the vicinity of the mouth of the patient.

A5 15. (Amended) A method for measuring respiratory air flow from the nostrils of the nose and/or the mouth of a patient by the use of an acoustical device for receiving less than the actual air volume exhaled and inhaled by the patient and adapted to be positioned on the face of the patient in the vicinity of the nose and/or mouth of the patient and having at least one acoustic space adapted to receive respiratory air flow from the patient, comprising [providing at least one acoustical duct having at least one port opening in the vicinity of the nose and/or the mouth of the patient for receiving respiratory air flow of the patient,] sensing turbulence and/or vibration and/or sound in the [air flow in the] acoustic [duct] space and providing an electrical signal and [digitally] processing the electrical signal to provide an estimated volume of air flow to provide a real-time indication of actual respiratory flow from the patient.

SUB B3

16. (Amended) A method as in Claim 15 further including the step of sensing respiratory sounds and ambient noise in the vicinity of the face of the patient and providing an additional electrical output signal and combining the first named and additional electrical output signals to provide a combined signal which is substantially free of respiratory sounds and ambient noise [and artifacts] and utilizing the combined signal to provide a real-time [signal indicative] indication of actual respiratory air flow in which the effects of respiratory sounds and ambient noise have been minimized.

17. (Amended) A method as in Claim 16 further including the step of [converting] analyzing the combined signal [into a waveform and classifying the waveform] using rule- based decision making to ascertain disordered breathing events.

A6 21. (Amended) A method as in Claim 17 further including the step of displaying [the waveform for visual observation] disordered breathing events.

Please add the following claims:

22. A method as in Claim 15 further including the step of analyzing the estimated volume of air flow using rule-based decision making for scoring a disordered breathing event.

23. A method as in Claim 21 in which a disordered breathing event is scored when there is a cessation of normal air flow over a predetermined time.

24. A method as in Claim 23 in which cessation of normal breathing is applicable when there is an air flow reduction by 50% relative to a nominal value for a period of 10 seconds or longer.

25. A method as in Claim 22 in which apnea and hypopnea events are classified.

A7

26. Apparatus for breath monitoring by sensing respirator air flow from the nostrils of the nose and/or the mouth of the face of a patient comprising an acoustical device for receiving less than the actual air volume inhaled and exhaled adapted to be positioned on the face of the patient in the vicinity of the nose and/or mouth of the patient and having at least one acoustic space adapted to receive respiratory air flow from the patient, a sensor exposed to the acoustic space for sensing turbulence and/or pressure changes and/or sound in the respiratory air flow in the acoustic space and providing an electrical output signal and including means for providing an estimated volume of air flow for processing the electrical signal indicative in real time of actual air flow to and from the patient.

SUB B4

27. Apparatus as in Claim 26 further including means for applying rule-based decisions to the estimated volume of air flow by employing a set of time varying coefficients adapted to a predetermined breathing pattern to provide a classified output, means utilizing the classified output in scoring an event upon cessation of normal breathing of the patient for greater than a predetermined period of time.

28. Apparatus as in Claim 27 wherein said cessation of normal breathing is considered to occur when there is an air flow reduction by 50% relative to nominal values and in which a predetermined period of time is 10 seconds or greater.

REMARKS

A Terminal Disclaimer with respect to U.S. Patent No. 5,797,852 is submitted herewith to overcome the double patenting grounds raised by the Examiner.